

WHAT IS CLAIMED IS:

1. A power management method for use in a multi-server data processing network, comprising:

5 responsive to detecting a power transition, determining whether the power transition is indicative of a cold start; and

responsive to determining the power transition is indicative of a cold start, retrieving power state information and, based on the power state information, restoring power to at least some of the modules of the network, wherein the power state information represents the power state of the network prior to the power transition and further wherein the power state information prevents the powering on of network modules having incompatible communication protocols.

15 2. The method of claim 1, further comprising, responsive to determining that the power transition is not indicative of a cold start, querying the network modules for their power state and communication protocol types and storing the power state and communication protocol information in non-volatile storage.

20 3. The method of claim 2, wherein querying a network module includes retrieving module identification information from a non-volatile storage device on the module.

4. The method of claim 2, wherein querying the network modules is further characterized as querying server modules and switch modules of the network, each server module comprising a symmetric multiprocessor system, and each switch module configured to interconnect the switch modules.

25 5. The method of claim 4, wherein each network module and switch module is characterized by a communication protocol selected from Ethernet, fibre channel, optical and serial.

30 6. The method of claim 1, wherein restoring power is further characterized as:

restoring power to any module indicated by the power state information as being on during a previous tenure; and

5 querying the communication protocol type of remaining modules to set power permission based on compatibility of the remaining modules with the powered modules.

7. A data processing network, comprising:

10 a plurality of server modules;

at least one switch module connecting the servers; and

15 a management module to consult stored power state information following a power transition and to restore power to at least some of the server and switch modules based on the power state information to prevent the management module from restoring power to any server and switch modules having incompatible communication protocols.

20 8. The network of claim 7, wherein the plurality of server modules comprise a plurality of symmetric multiprocessor (SMP) server modules housed within a single chassis, and further wherein the at least one switch module is housed within the chassis, and still further wherein the servers modules and at least one switch module share selected resources of the network including system power.

25 9. The network of claim 7, wherein the server modules and at least one switch module are compliant with a communication protocol selected from Ethernet, fibre channel, and serial.

10. The network of claim 7, wherein the management module is configured to:

30 determine whether the power transition is indicative of a cold start; and

responsive to determining the power transition is indicative of a cold start, restore power to at least some of the modules based on the power state information, wherein the power state information represents the power state of the network prior to the power transition and further wherein the power state information prevents the management module from powering on of network modules having incompatible communication protocols.

11. The network of claim 10, wherein the management module is further configured to query the modules for their power state and communication protocol types responsive to determining that the power transition is not indicative of a cold start, and to store the power state and communication protocol information in non-volatile storage.

12. The network of claim 11, wherein each module includes module identification information stored in a non-volatile storage device on the module, wherein the identification information is indicative of the communication protocol type.

13. The network of claim 11, wherein each network module and switch module is characterized by a communication protocol selected from Ethernet, fibre channel, optical and serial.

14. The network of claim 11, wherein the management module is further configured to:

restore power to any module indicated by the power state information as being on during a previous tenure; and

query the communication protocol type of remaining modules to set power permission of the remaining modules based on their respective compatibility with the powered modules.

15. A computer program product comprising computer executable code for managing power states in a multi-server data processing network, the code being stored on a computer readable medium, comprising:

computer code means for determining whether a detected power transition is indicative of a cold start; and

5 computer code means, responsive to determining the power transition is indicative of a cold start, for retrieving power state information and, based on the power state information, for restoring power to at least some of the modules of the network, wherein the power state information represents the power state of the network prior to the power transition and further wherein the power state information prevents the powering on of network modules having incompatible communication protocols.

10 16. The computer program product of claim 15, further comprising, computer code means, responsive to determining that the power transition is not indicative of a cold start, for querying the network modules for their power state and communication protocol types and for storing the power state and communication protocol information in non-volatile storage.

15 17. The computer program product of claim 16, wherein the code means for querying a network module includes code means for retrieving module identification information from a non-volatile storage device on the module.

20 18. The computer program product of claim 16, wherein the code means for querying the network modules is further characterized as code means for querying server modules and switch modules of the network, each server module comprising a symmetric multiprocessor system, and each switch module configured to interconnect the switch modules.

25 19. The computer program product of claim 18, wherein each network module and switch module is characterized by a communication protocol selected from Ethernet, fibre channel, optical and serial.

30 20. The computer program product of claim 15, wherein the code means for restoring power is further characterized as:

code means for restoring power to any module indicated by the power state information as being on during a previous tenure; and

5 code means for querying the communication protocol type of remaining modules to set power permission based on compatibility of the remaining modules with the powered modules.